



Say Goodbye to the Crash Test Dummy? Altair Survey Reveals Digital Twin Technology May Make Physical Prototyping Obsolete in the Next 4-6 Years

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Global survey finds widespread adoption of digital twins across industries, delivering transformative business impact in product development, risk assessment, and sustainability

TROY, Mich., Sept. 13, 2022 /PRNewswire/ -- [Altair](#) (Nasdaq: ALTR), a global leader in computational science and artificial intelligence (AI), today released results from an independent, international [survey](#), which confirms a surge in worldwide adoption of digital twin technology. The survey of more than 2,000 professionals gauged digital twin technology adoption and assessed how organizations – across all industries – are utilizing it, its business benefits, and environmental impact.

Video: [Say goodbye to the crash test dummy?](#)

While the survey confirmed many of digital twin technology's expected benefits, such as more accurate and accelerated product development, it also revealed this surprising prediction: Two in three respondents (67%) expect digital twin solutions to make the need for physical prototypes obsolete within the next six years.

Additionally, respondents reported an overwhelmingly strong connection between digital twins and the drive for sustainability. 85% of respondents' organizations are currently using or plan to use digital twin technology to reach their overall sustainability goals.

"There's little doubt data gleaned from using digital twins gives organizations a world of new insight, helping teams work faster, create better products, generate less waste, and find their next big breakthrough," said James R. Scapa, founder and chief executive officer, Altair. "But as this study confirms, we are just seeing the tip of the iceberg. The evolution toward a smart, connected everything is changing the world, and as businesses realize the untapped benefits of taking digital twins to the next level, including the convergence of simulation technology, high-performance computing, and AI, the possibilities for revolutionizing industries, business processes, and scientific research are endless."

More key findings from the survey include:

- **Breakneck adoption rates:** According to the survey, businesses are adopting digital twin technology at unprecedented speeds.
 - Nearly three in four (69%) organizations are already leveraging digital twins.
 - 71% of those businesses began investing in the technology in just the past year.
 - Of those organizations not using digital twins, nearly half expect their company to adopt the technology within three years.
- **A need for deeper digital twin understanding is widespread:** More than half of respondents stated they have limited knowledge about the technology or find it confusing. Many users (more than one-third) signaled they'd like to learn more about use cases, data optimization, convergence, and other aspects of digital twin technology.
- **Sustainability breakthroughs:** The survey found digital twins are simulating the way to a net zero future, as 92% of respondents indicated the technology has improved sustainability within their organization. Organizations use digital twin technology for a wide range of functions and reasons, with top use cases including:
 - 95% to better inform new product development
 - 51% to create smart objects
 - 50% to monitor real-world objects in real-time
- **Game-Changing Impact:** Respondents reported where they see the greatest impacts of digital twin technology:
 - More accurate risk assessments, faster time to market, and improved customer satisfaction (73%).
 - Reduced maintenance and warranty costs (62%).
 - Nearly three in four respondents (73%) said the technology has made their products or processes more energy-efficient and/or less wasteful.
 - Helping companies reach their sustainability goals in the efficient use of resources (76%), energy savings and

saving on operating costs (74%), and waste reduction (60%).

Respondents also believe digital twin technology will reshape the way products are developed in the future:

- 43% believe digital twins will make the need for physical testing obsolete within the next four years.
 - 36% say the product development timeline will speed up.
 - 33% believe the need for physical prototypes will be reduced.
 - 28% say fewer simulations will be needed.
 - Respondents from the consumer electronics, architecture, engineering, and construction (AEC), and industrial equipment sectors were the most likely to say their organizations lowered maintenance and warranty costs using digital twin technology.
- **International and Interorganizational Impact:** The survey also found the C-suite has bought into the power of digital twin technology, but a significant internal disconnect exists between upper management and user-level respondents:
- 81% of management respondents say their organization is using digital twin technology, contrasting with just 58% of user-level respondents.
 - Similarly, 68% of management responses indicated their company was utilizing digital twins to meet sustainability goals compared to just 43% of user-level responses.
 - From a geographic perspective, India leads countries in the adoption of digital twins in the next two years, at 70%, while respondents from the APAC region were the most likely to say their organizations were already leveraging digital twins at 78%.
 - When asked what technologies businesses most associate with digital twins, the U.S. scored the lowest for AI (35%), whereas China (65%) and India (59%) ranked the highest. China and India also lead in predictive analytics with digital twins.

Altair conducted the global survey between May 4 and May 24 and drew 2,007 responses from professionals employed throughout several target industries who have job functions ranging from data science, the Internet of Things (IoT) and analytics, software engineering, research and development, engineering, information technology (IT)/information systems (IS), product development, and executive management. The sample consists of participants from ten countries: the United States, China, France, Germany, India, Italy, Japan, South Korea, Spain, and the United Kingdom.

Click here to learn more about the survey and view infographics that contain standout insights: <https://altair.com/one-total-twin>.

About Altair

Altair is a global leader in computational science and artificial intelligence (AI) that provides software and cloud solutions in simulation, high-performance computing (HPC), data analytics, and AI. Altair enables organizations across all industries to compete more effectively and drive smarter decisions in an increasingly connected world – all while creating a greener, more sustainable future. For more information, visit <https://www.altair.com/>.

Media contacts

Altair Corporate

Jennifer Ristic
+1.216.849.3109

corp-newsroom@altair.com

Altair Investor Relations

Monica Gould, The Blueshirt Group
+1 212.871.3927

ir@altair.com

Altair Europe/The Middle East/Africa

Charlotte Hartmann
+49 7031 6208 0

emea-newsroom@altair.com



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